ZETA Family Offers Full Range of Power for Your Stepper Control Needs.

and CE (LVD and EMC*)

The ZETA Series provides a low-cost, user-friendly system that delivers high performance and reliability in eight versions – the ZETA4, ZETA4-240, ZETA8 and ZETA12 drives and the ZETA6104, ZETA6104-240, ZETA6108 and ZETA6112 drive/controllers. The entire series incorporates the breakthrough techniques known as Active Damping™ (patented) and Electronic Viscosity™ (patent pending). The result is higher throughput by reducing settling time and decreasing motor vibration. The user has selectable damping to optimize performance and reduce audible noise.

The ZETA drives are perfect for multi-axis applications and allows control by any standard step and direction or clockwise/counter – clockwise controller.

The ZETA6000 drive/controllers combines the power and reliability of Compumotor's ZETA drives with the flexibility of Compumotor's 6000 Series of controllers. This advanced design makes the ZETA6000 drive/controller family the highest performing, single-axis system in the industry.

Compliance

The ZETA Series is UL (Underwriter Laboratory) Recognized and CE (LVD) compliant. The ZETA4-240, ZETA8 and ZETA12 were also designed to meet the Electromagnetic Compatibility [EMC (CISPR22/EN55022 Class B)] directives, making them an excellent choice for machines built in or shipped to the European Community. By designing these products to meet the EMC Class B's rigid standards, these products also meet North America's FCC Class B emissions test making them the solution for low noise applications.

Major Issues of Open Loop Systems are Solved

When the torque demand on a step motor system exceeds the torque available, the motor can lose synchronization; this is known as stalling. Stalling occurs normally when a step motor is commanded to do a move which it cannot perform. In some cases, however, a step motor can stall even when it is capable of making the move. In these cases, the step motor system vibrates so dramatically that the *available* torque is not adequate to overcome the vibration and make the move. When operating the step motor near a system resonance point, the likelihood of a stall due to vibration is higher.

To minimize the likelihood of a system stalling, step motors require damping. To dampen means to decrease oscillation. The more damping, the faster the oscillation decreases. A step motor with a high damping ratio will be able to perform to the best of its ability.

The ZETA Series provides damping electronically, with no additional devices or wires to connect. Compumotor's electronic damping is configurable, so it can change if the application changes.

ZETA Series Benefits:

- Stalling is minimized without the additional expense and inertia of a damper
- Higher acceleration
- Higher performance

* *EMC with proper filter and intallation procedures.*

Increased Efficiency and Reduced Settling Time

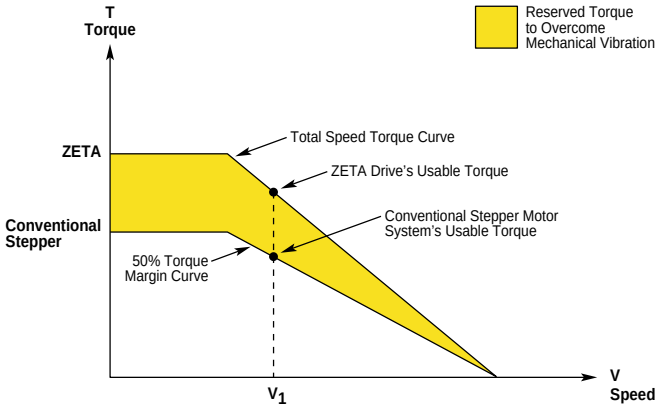
Compumotor's patented Active Damping™ electronically damps motor vibration. By eliminating vibration, the safety margin for reserved torque can now be used to do useful work. This can provide as much as a 50% increase in usable torque.

ZETA Series Benefits:

- Decreased motor vibration
- Reduced audible noise
- Increased usable shaft power

In conventional step motor systems, the speed-torque curves represent the motor's total shaft power, not the usable shaft power. As a result of Active Damping™, Compumotor's ZETA system has greater usable shaft power. This higher usable shaft power results in higher torque at all speeds compared to conventional stepper systems.

Torque vs Speed Chart



Increased Throughput

The figure to the right shows an example of a repetitive move profile in an indexing, pick and place, or similar type of application requiring some type of action to occur between moves (i.e., scanning, probing, measuring, etc.). It is critical for the machine to be settled within a given tolerance before the action can occur. The conventional step motor system requires a significant amount of time (wasted time) to settle.

The ZETA Series improves machine throughput by decreasing settling time and allowing the motor's torque to be used for greater acceleration instead of overcoming the step motor system's vibration.

With conventional stepper systems, the shaft oscillates around its commanded final position before settling after each move. This results in increased settling time that translates into wasted time.

Compumotor's patentable Electronic Viscosity™ damps the ringing of the motor system when decelerating the load.

ZETA Series Benefits:

- Decreased settling time
- Increased production time

Throughput